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Nurse Practitioner and Physician's Assistant Clinics in Rural California

Part II: A Survey

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Twenty-six rural California clinics have employed nurse practitioners (NP's) or physician's assistants (PA's) to meet the primary health care needs of local communities. Of the 24 NP's and 5 PA's involved, 11 were men and 18 were women. Their average age was 37, and all but five were trained in California. The clinics, with less than 50 percent on-site physician supervision, averaged 19 miles in distance from the nearest physician (ranging up to 63 miles). More than half the clinics were satellites of central, physician-staffed, nonprofit clinics, a third were community-administered and two were private. Half served a whole community, a quarter were established to serve Indians and a quarter to serve Chicanos. Each NP or PA saw an average of 13 patients a day. All nonprivate clinics received subsidies from a variety of local, state and federal funds. Four of the clinics had closed or had no medical staff at the time of our survey.

NP/PA clinics are proving to be a feasible and valuable means of offering essential health care needs to remote communities.

A STUDY WAS DONE to determine the ways in which 26 rural communities in California have helped to meet their primary health care needs through clinics staffed by nurse practitioners (NP's) or physician's assistants (PA's) remote from, but supervised and supported by, physicians. While sponsorship, funding, staffing combinations and populations served varied from clinic to clinic, the use of NP's and PA's in remote communities appears feasible and acceptable.

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Part II of a two-part article. Part I appeared in the February issue.

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The first part of this study, published in the February issue of this journal, presented consumer-related, provider-related, financial or legal issues faced by these clinics. This paper describes the NP's, PA's and clinics themselves.

Methods

For survey purposes, an NP/PA clinic has been defined as one which, for more than six months, has operated four or more days a week with less than 50 percent (that is, 2½ days a week) on-site physician supervision. Survey information was gathered by telephone conversations with NP's, PA's and administrators.

Many clinics have changed their staffing pat-

TABLE 1.—*Nurse Practitioner and Physician's Assistant Clinics in Rural California (Listed North to South) by Physician Distance, Population Served and Financial Support in April 1979*

Map No.	Town (County)	Year Opened-Closed 19..	NP/PA School	Miles to Closest MD/ Sponsoring MD	Sponsor: I—Independent C—Central Clinic* H—Hospital P—Private	Predominant Population Served	Patients/ NP-PA/Day	Financial Support: Public Fee for Service: Percent Patients Medi-Cal	Financial Support: Public Fee for Service: M—Certified Medicare FP—Family Planning Contract	Grants, Contracts (See Code on Table 2)
1	Smith River (Del Norte)	77-	PA—Stanford	25/75	C	Indian	9	70		C,N(MD),F,I,H
2	Fort Jones (Siskiyou)	77-	NP—UC Davis	14/160	C	Indian	5	?		I
3	Doris (Siskiyou)	78-79	PA—Stanford	25/80	P	Agric.	6	5		
4	Cedarville (Modoc)	77-	NP—UC Davis	1/156	C	Agric., poor	10	30		C
5	Berber (Lassen)	78-	PA—Hawaii	19/19	H	Agric.	25	50		C,N(P)
6	Willow Creek (Humboldt)	75-	NP—UC Davis	16/16	H	Lumber	12	50		T
7	Mad River (Trinity)	78-	NP—Army	58/58	I	Lumber	9	25	M	C,N(P)
8	Covelo (Mendocino)	74-	NP—UC Davis(×2)†	47/47	I	Indian	8	?		I
9	Mendocino (Mendocino)	73-	NP—UC Davis(×2)	1/1	I	Young	14	50		T
10	Feather Falls (Butte)	77-	PA—Duke	25/25	C	Agric.	12	75	M	C,N(MD,P),F
11	Downieville (Sierra)	74-	NP—Colorado	51/51	I	Lumber	18	25	M	T,C,N(P),F
12	Lower Lake (Lake)	78-	NP—UC Davis(×2)	2/14	P	General	20	70	M	
13	Esparto (Yolo)	75-	NP—UC Davis	22/28	C	Agric., migrant	15	33	M,FP	N(MD),M,H
14	Walnut Grove (Sacramento)	73-78	NP—UC Davis	3/35	C	Migrant	10	33	FP	N(MD),M,H
15	Coleville (Reno)	78-	NP—Sonoma	32/120	C	Indian	15	60	M	N(MD),I
16	Tuolumne (Tuolumne)	77-	NP—UC San Francisco	2/10	I	Indian	12	30	M,FP	I
17	Woodlake (Tulare)	78-	NP—UC Davis	1/14	I	Chicano	20	75	M	C
18	Tule River (Tulare)	78-	NP—UC Davis	15/16	I	Indian	12	?		I
19	Porterville (Tulare)	78-79	NP—UC Davis	1/1	I	Chicano	6	?		C
20	Baker (San Bernardino)	75-77	NP—UC Davis	63/63	C	General	4	?		N(P)
21	Lucerne Valley (San Bernardino)	77-	PA—Stanford	36/36	C	Agric.	8	60	M	C,N(MD,P),F
22	San Diequito (San Diego)	77-	NP—UC San Diego	1/40	C	Agric., migrant	20	15	FP	T,N(MD),F,M,H
23	San Marcos (San Diego)	75-	NP—UC San Diego	7/23	C	Agric.	18	15	FP	T,N(MD),F,M,H
24	Santa Ysabel (San Diego)	77-	NP—UC Los Angeles	8/15	C	Agric., Indian	14	15	FP	T,N(MD),F,M,H
25	Calexico (Imperial)	78-	NP—UC San Diego	5/26	C	Chicano	15	35	M,FP	N(MD),F,M,H
26	Winterhaven (Imperial)	74-	NP—Brigham Young University	3/65	C	Retired	18	35	M	N(MD),F
	Average, (Range), or Total		NP=24; PA=5	19(1-63)/ 46(1-60)	I=8;C=14; H=2;P=2		13(4-25)	42(5-75)	M=11 FP=7	

Agric. = agricultural; UC = University of California; NP = nurse practitioner; PA = physician's assistant

*Brackets indicate satellite clinics operated by a central clinic.
†(×2) indicates that clinic is staffed by two NP's.

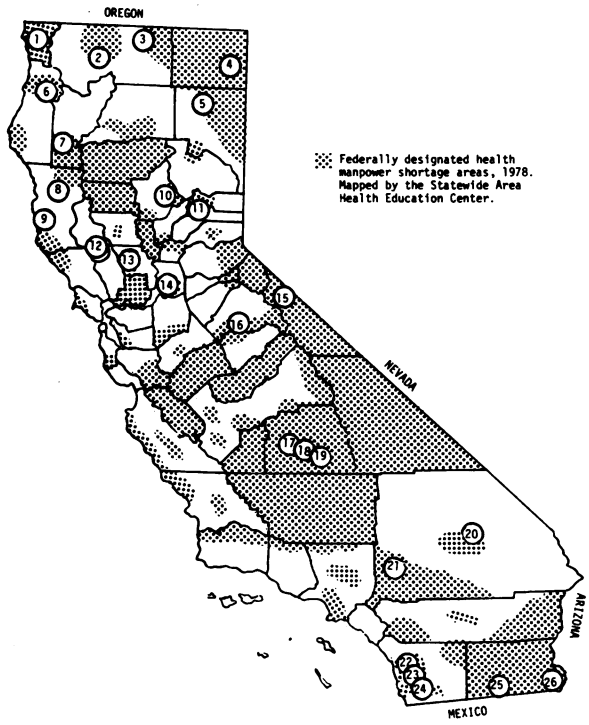

Figure 1.—Rural clinics operated by nurse practitioners or physician's assistants, March 1979. (Numbers indicate NP/PA clinic sites.)

terns and funding sources since they opened; however, this paper attempts to describe each clinic during a period it best satisfied the above definition. In most cases this was in April 1979, the time of the survey.

Results

The 26 clinics, including four which either closed or no longer use NP's or PA's, are listed in Table 1; their locations are shown on the map (Figure 1). They are scattered throughout rural California, from the Oregon to the Mexican border. Many sites had already been providing limited services before the dates listed to mark their opening as NP/PA clinics.

Twenty-four nurse practitioners and five physician's assistants staffed the 26 clinics; three of the clinics each had two NP's. All five PA's and six of the 24 NP's were men; the other 18 were women. The average age of the NP's and PA's was 37, ranging from 26 to 54 years.

The five PA's in the survey were trained as generalists, which includes care of pediatric and adult populations for preventive, acute and chronic problems. Twenty of the NP's were Family Nurse Practitioners (FNP) with similar training; the other four studied adult medicine only. The University of California, Davis, trained 14 NP's, the largest number from any one school; five others were trained outside of California.

The average distance between an NP/PA clinic and the nearest physician was 19 miles, the farthest was 63 miles. Often, official physician supervisors were not the nearest physicians, but were located at sponsoring agencies farther away. The average distance of the supervisors from the clinics was 46 miles; the greatest distance was 160 miles.

Of the clinics, 14 were outreach projects of established, nonprofit community clinics. In several instances, two or three satellite clinics were operated by a central facility (13* and 14; 20 and 21; 22, 23 and 24; 25 and 26). Eight clinics (7-9, 11, 16-19) were begun by the community which then contracted with private physicians to give supervision and part-time service. Clinics 5 and 6 were projects of community hospitals, and clinics 3 and 12 were private enterprises.

Six clinics dealt predominantly with American Indians and six with migrants or Chicanos. Three others served low income groups; of these, one dealt with all age groups, the other two served the young or retired. Fifteen clinics had been founded to serve an entire population, rather than a special target group. (This explains the overlap with the subgroup count, because most clinics serving a general population nevertheless saw a predominance of a particular group.

NP's and PA's saw an average of 13 patients a day. Clinic 6, operating at this rate, reported that it was self-supporting without grants. Clinic 12, a private practice, was solvent with 20 patients a day, while another private effort (clinic 3) failed because it never averaged more than 6 patients per day. Three clinics (5, 10, 11) projected that they would be self-supporting after start-up expenses were paid off. Clinics 7 and 18 reported below average patient figures because they were new and still building their practices. At least 13 of the clinics will not be self-supporting because they serve predominantly poor people who are not insured by public programs.

Financial support for the 26 clinics was extremely varied. The estimated percentage of patients on Medicare and Medi-Cal (California's Medicaid program) averaged 42 percent (range, 5 percent to 75 percent). Therefore, reimburse-

*Numbers in parentheses refer to clinics as designated in Table 1 and Figure 1.

TABLE 2.—*Sources of Financial Aid for NP/PA Clinics**

Code	Source	Number of Recipient Clinics (n=26)
T	County tax and/ revenue sharing	6
N(MD)	National Health Service Corps physician backup	11
N(P)	National Health Service Corps NP or PA salaries	6
F	Federal Rural Health Act	10
C	California Rural Health Act	9
M	Federal Migrant Health grants	6
I	Federal and/or California Indian contracts	6
H	Maternal and Child Health contracts	7

NP=nurse practitioner; PA=physician's assistant

*See Part I, February issue, for more detailed information.

ment of NP's and PA's by Medi-Cal is important for clinic survival. Eleven of the clinics had already been certified by Medicare for NP/PA reimbursement; many more had applied but had not yet been processed at the time of our survey.

General tax support came from the following sources: 6 clinics used county tax aid or revenue sharing funds, or both; 10 received federal health aid; 11 were given backup support by National Health Service Corps (NHSC) physicians, and six of the NP's and PA's received salaries from the NHSC. Nine clinics received some funds from the State of California Rural Health Act, including four in which the NP or PA salary was directly or indirectly paid by the state (Table 2).

Special population grants were also used. Six clinics had Federal Migrant Health grants; six had Indian contracts (federal or state); seven had Maternal and Child Health contracts, and seven had Family Planning contracts.

Most of the clinics used more than one source of support. In cases where two or three clinics were under the same sponsor, they generally, but not always, shared the same funding resources.

Four of the 26 clinics no longer use NP's or PA's. Doris (3) closed its clinic due to lack of use, but plans to start again under a different sponsorship. Walnut Grove (14) closed due to a lack of sustained leadership. Porterville's (19) NP left when his role was not accepted by the Chicano board; they are looking for a replacement. Baker (20) closed when most of the population moved away.

A brief narrative about individual clinics follows, showing some of the differences in origin, purpose, support and problems. (Numbers refer to both map and Table 1 locations.)

1. Del Norte County Indians are served by an outreach program from the United Health Service, centered in Trinidad. The PA travels to many communities throughout the county.

2. Fort Jones is also an Indian clinic. The NP there receives backup support from two NHSC physicians 13 miles away in Etna (this arrangement was to change in mid-1979), and refers patients beyond Yreka to Medford, Oregon, where service is reportedly better. The official supervisor is 160 miles away in Anderson.

3. Doris is an agricultural community with a high proportion of elderly persons. A private physician in Redding, 80 miles away, established a PA here and financially underwrote the venture, choosing not to seek government support. The PA served about six patients a day for eight months, but the clinic closed due to continued financial loss. The North-Eastern Rural Health Clinics, Inc. (centered in Westwood) planned to move two NP's (husband and wife) there in mid 1979 to be supported by a more subsidized program.

4. Cedarville clinic is also administrated by the North-Eastern Rural Health Clinics, Inc., 156 miles south, and was run by the two NP's scheduled to move to Doris. They served a lower-income population with simpler problems than the private physician practicing in the same building. Although part of a separate organization, he consulted daily. The two NP's were to be replaced by a physician.

5. Beiber is an agricultural community 19 miles from Fall River Mills where the Meyer Hospital took leadership to establish a PA. The clinic is almost self-supporting.

6. Willow Creek is a lumber community. The Humboldt Medical Center Hospital in Hoopa, 16 miles away, established the NP clinic. Though initially aided by county tax money, the clinic soon operated at a profit, partly due to good local insurance programs in the lumber industry.

7. Mad River is also a lumber community and is located 58 miles from the nearest physician. The NHSC sponsored NP was just beginning to define his role and to develop support systems at the time of our interview.

8. Covelo is the site of the Round Valley Indian Health Service, which was founded by two Indian NP's in 1974. Half of the population served is Indian and half is white. After four

years of working with part-time physician consultation, they added a full-time physician in 1978.

9. Mendocino on the coast attracts many young people who have little money. The clinic, the oldest in the survey, has been aided by a private foundation and the county health department.

10. Feather Falls is an agricultural and lumber community. An NHSC sponsored PA was established there in 1977 by the Yuba-Feather Health Center in Brownsville, 25 miles away, which has three NHSC physicians.

11. Downieville is a Sierra lumber and recreational community 51 miles from a physician. An NHSC physician was there for a year but saw few patients. He was replaced by an NP who became very active in the community, was well accepted, and soon attained a good patient flow. He is supported by a physician in Loyalton, 51 miles east, although half of the patients referred by the NP go to Grass Valley, 51 miles west.

12. Lower Lake at Clear Lake is a private venture that has had much shifting of personnel among its three sites. Two NP's are very busy at Lower Lake and are actively supported by the sponsoring private physician nearby. This was the only viable private practice clinic in the study.

13, 14. Esparto and Walnut Grove are outreach projects of the Regional Rural Health Service at Dixon, established mainly to serve migrants and the local Chicano population, although the general population increasingly has used their services. Walnut Grove, the farther of the two from Dixon, became independent in 1978. At that time, each clinic had its own NP. However, Walnut Grove closed in 1979 due to lack of sustained leadership. Dixon has two NHSC physicians.

15. Coleville is served by the Tri-County Indian Health Program, 120 miles away in Bishop, east of the Sierra Range. A third of the Coleville patients are Indian. The Bishop clinic has two full-time physicians.

16. The Tuolumne Indian Health Project serves Indians of four Sierra slope counties and its NP is backed part-time by a physician in private practice in Sonora.

17. Woodlake is the site of the United Health Organization, which serves almost exclusively Chicano families. The FNP is backed by a part-time private practitioner.

18. The Tule River Indian Health Project is a few miles east of Porterville. One NP was unable to achieve acceptance, but another (who is part Indian) has been much more successful, and is drawing Indians from as far as Bakersfield, over 50 miles away.

19. Porterville was the site of a Chicano clinic that was staffed by an NP for six months. The NP left because of role acceptance problems and the clinic is seeking alternatives in order to continue serving this population.

20, 21. Baker and Lucerne Valley are projects of the Mojave Desert Health Services in Barstow. Baker was the center of a large inter-state telephone facility and used the services of an NP for two years. However, when the telephone operation was automated, most of the population left and the clinic closed. Lucerne Valley is an agricultural community and the clinic there is stable. Another clinic is being opened in Yucca Valley by the Barstow group.

22, 23, 24. The North County Health Project (San Diego), centered in Ramona, operates several clinics. Three are staffed by full-time NP's; the others offer more limited services. The San Diequito Clinic has a family planning NP, as well as a general NP. The network has a strong communication and support system and is involved with medical education with the University of California, San Diego.

25, 26. Clinica de Salud in Brawley mainly serves migrants and the local Chicano population. It has three outreach facilities, two of which are staffed by an NP. The Winterhaven Clinic assists mostly low income, retired whites, while the Calexico Clinic serves predominantly Chicanos.

Discussion

Attempts to meet health manpower shortages have come both from rural communities taking leadership to establish their own clinics and to attract providers, and from central clinics reaching out to help outlying populations in their service area. The "community" may include all of the people or a population subgroup, usually ethnic in makeup.

Nurse practitioners and physician's assistants are becoming an increasingly acceptable answer to the need for primary care. Some NP/PA clinics have survived up to six years and have established a significant patient flow. The University of California, Davis and San Diego Family Nurse Practitioner Programs, and the Foothill College-Stanford University Primary Care Associate Program are specially geared to select and train personnel for rural areas. Foundation, federal and

state support to these schools has made this possible. The efforts of these programs are obviously effective.

The predominance of nurse practitioners over physician's assistants and of women over men in the study may break the stereotype in some minds that male PA's are the key to health care in rural areas. The 37 year average in age suggests experience and maturity, against the "fresh kid just out of school" image held by some people.

Lack of physician support has not, in most cases, been a major obstacle. Some physicians are reluctant to take responsibility for an NP or PA, especially in remote clinics; however, usually a willing physician can be found in the nearby community. And, once begun, the relationship is almost always successful. In clinics serving particular subgroups, most nearby physicians are tolerant but uninvolved; others are active in support, and only rarely is one openly hostile.

Most of the NP's and PA's feel adequately supported and, though they are nervous when beginning a satellite operation, they become confident as logistics of the clinic are developed and tested, and as their own success is recognized. It helps greatly for NP's and PA's to work directly with a physician at least once a week.

Financial support comes from patient fees, insurance and public programs. A large variety of public programs exists, which some clinics combine to form a viable budget. Often these budgets are the result of the imagination, skill and energy of the administrator (as discussed in Part I).

NP/PA clinics, simply and efficiently run, can be maintained with a patient flow of approximately 12 paying patients a day. However, when start-up costs and administrative support are included, seeing 20 patients a day is more realistic to insure that the clinic will be self-supporting. A few clinics already are achieving self-sufficiency.

Generally, patient acceptance has been good, with a few exceptions among the Indian or Chicano populations who were unable to accept a particular "Anglo" NP or PA. Three of the most successful Indian clinics are staffed by Indian NP's, and the most successful Chicano/migrant clinics are run by Chicano (or, at least, Spanish-speaking) NP's or PA's. "Anglos" have been successful in many ethnic clinics, however.

Satellite NP/PA clinics are also becoming well established, and are growing in number and impact—the result of overcoming many problems, including winning both public and professional support.